

Trends In Amplification

From the Editor

A quick scan through any journal covering topics related to amplification gives the impression that hearing impaired patients must only be interested in communication because almost all research and development is focused on improving speech understanding. Improved communication is appropriately the primary focus of most amplification interventions, but it certainly does not encompass all sounds that are important. Music, for example, though arguably not essential to life, represents a sound type that is important enough that it is present in some form in every known culture. Music is used in a variety of ways, from celebration to relaxation to the invoking of strong emotion. Music is an everyday part of life for many people, including those with hearing impairment. Consequently, how individuals who have been fit with cochlear implants and hearing aids perceive music through these devices is of obvious interest:

- Is it the case that the enjoyment of music is lessened or lost with the development of hearing loss, even after the person is fit with a hearing aid or cochlear implant?
- Is it the case that those with congenital hearing loss are never able to experience music in the same manner as those with normal hearing?
- Shouldn't hearing aids and cochlear implants be designed with music in mind whenever possible; or are fittings designed to maximize communication likely to also maximize music perception?

As Marshal Chasin and Frank Russo point out in one article in this issue "For some types of music the 'speech-input' settings yield electro-acoustic characteristics that are near optimal. However, for most other types of music, these settings can be less than optimal." Given these differences, it would appear that music parameters should be considered when amplification systems are designed and fitted.

In this issue of *Trends in Amplification*, we are fortunate to have two excellent articles describing how auditory prosthesis can interact with listener's perception and enjoyment of music. In the first article, Marshal Chasin and Frank Russo discuss music perception in hearing aids, and in the second article, Hugh McDermott describes music perception through cochlear implants.

Marshall Chasin, AuD, MSc, Reg CASLPO, Aud(C) is an audiologist and the Director of Auditory Research at the Musicians' Clinics of Canada in Toronto, Ontario. He received his bachelors in mathematics and linguistics at the University of Toronto. He is also the Coordinator of Research at the Canadian Hearing Society, and Adjunct Professor at the University of Toronto (in Linguistics). Chasin has been involved with hearing and hearing aid assessment since 1981 and is the author of over 100 clinically based articles. He has lectured extensively and is frequently on television and radio (he's the good looking balding guy sometimes on Much Music). Chasin has won several awards over the years, including the 2003 Professional Leadership Award for clinical and research work with musicians and performing artists from the Audiology Foundation of America.

Frank A. Russo, PhD, is a postdoctoral fellow in the Department of Psychology at the University of Toronto at Mississauga, in Ontario, Canada.

Hugh J. McDermott, PhD, has been with the Department of Otolaryngology, University of Melbourne, since 1981. Early in 2001 he was awarded a 5-year Principal Research Fellowship by the Garnett Passe and Rodney Williams Memorial Foundation. In addition, since 1999 he has been Deputy Program Manager and Project Leader in the Co-operative Research Centre for Cochlear Implant and Hearing Aid Innovation. Currently his research interests are divided almost equally between cochlear implants and advanced hearing aids, with a goal of developing and evaluating improved sound processing techniques, including effective techniques for combining acoustic and electric signals for people with residual hearing who are implant users. He is also closely involved in several research projects investigating the

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perception of music, speech, and other sounds with users of hearing prostheses. The outcomes of some of this research have had direct application to the practical development of new or improved sound processing schemes for cochlear implants or hearing aids. Dr. McDermott developed the Spectral Maxima Sound Processor (SMSP) for the 22-electrode cochlear implant then manufactured by Cochlear Limited, which

led to his development (in collaboration with several colleagues; particularly Andrew Vandali, Dr. Colette McKay, and Dr. Peter Seligman) of the Spectra-22/SPEAK processor used commercially by Cochlear Limited since 1994.

Todd A. Ricketts, PhD
Editor-in-Chief